

Figure : Typical partition between firmware and hardware

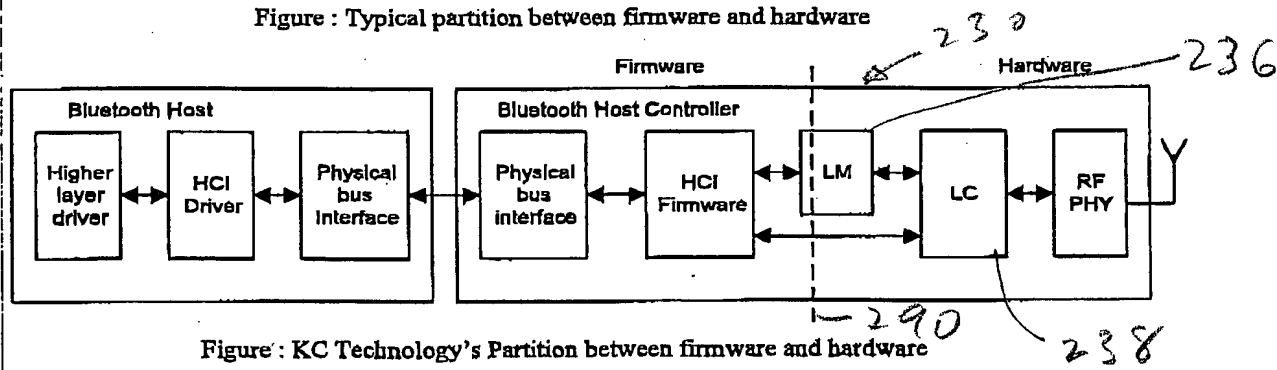


Figure: KC Technology's Partition between firmware and hardware

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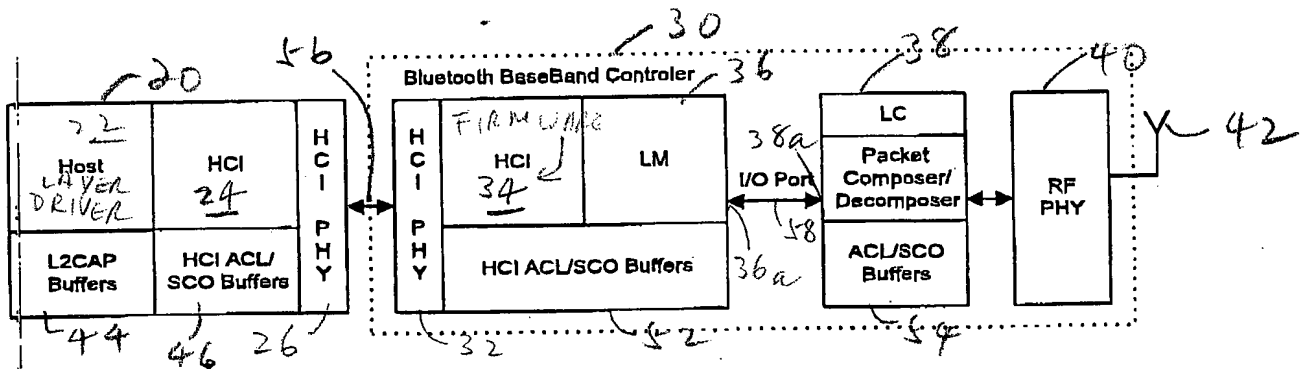


Figure : HCI ACL Data Packet

31	24	23	16	15	8	7	0
Data Total Length				BC	PB	Connection Handle	
...				Data byte 1		Data byte 0	

Figure : HCI SCO Data Packet

31	24	23	16	15	8	7	0
Data byte 0		Data Total Length		Reserved	Connection Handle		
		...		Data byte 1			

submarine

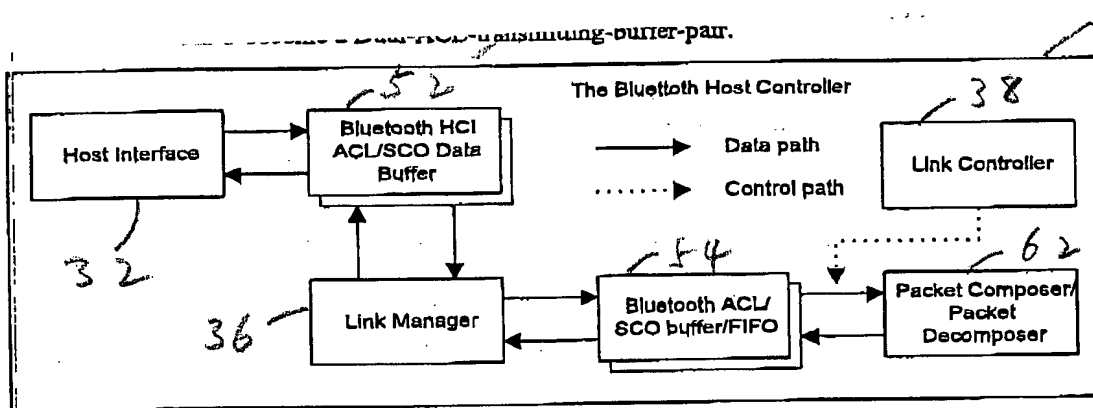


Figure : Data flow and Buffer scheme in the Bluetooth Host Controller

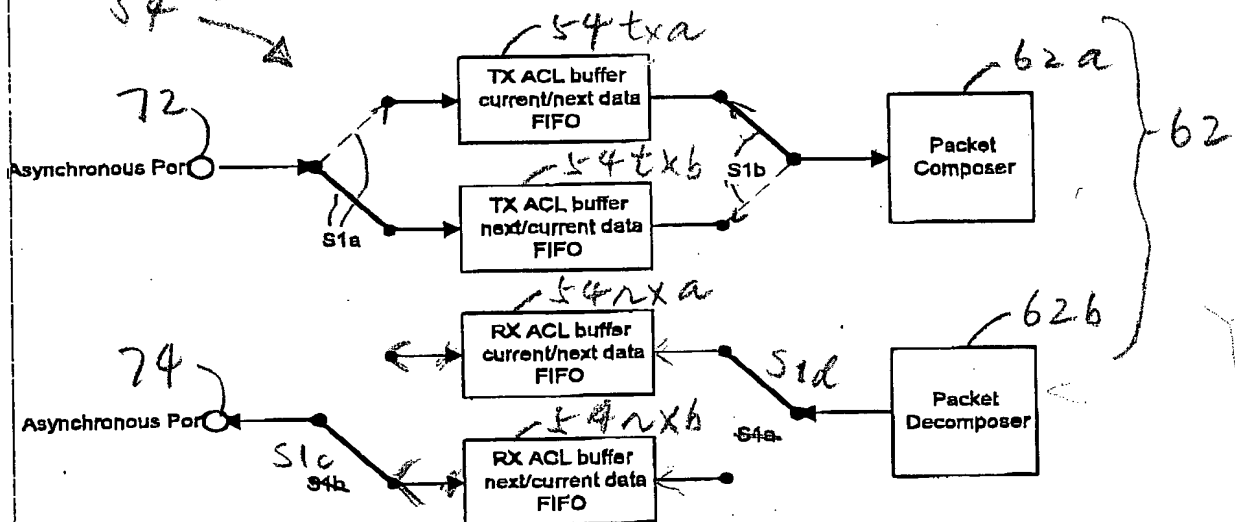


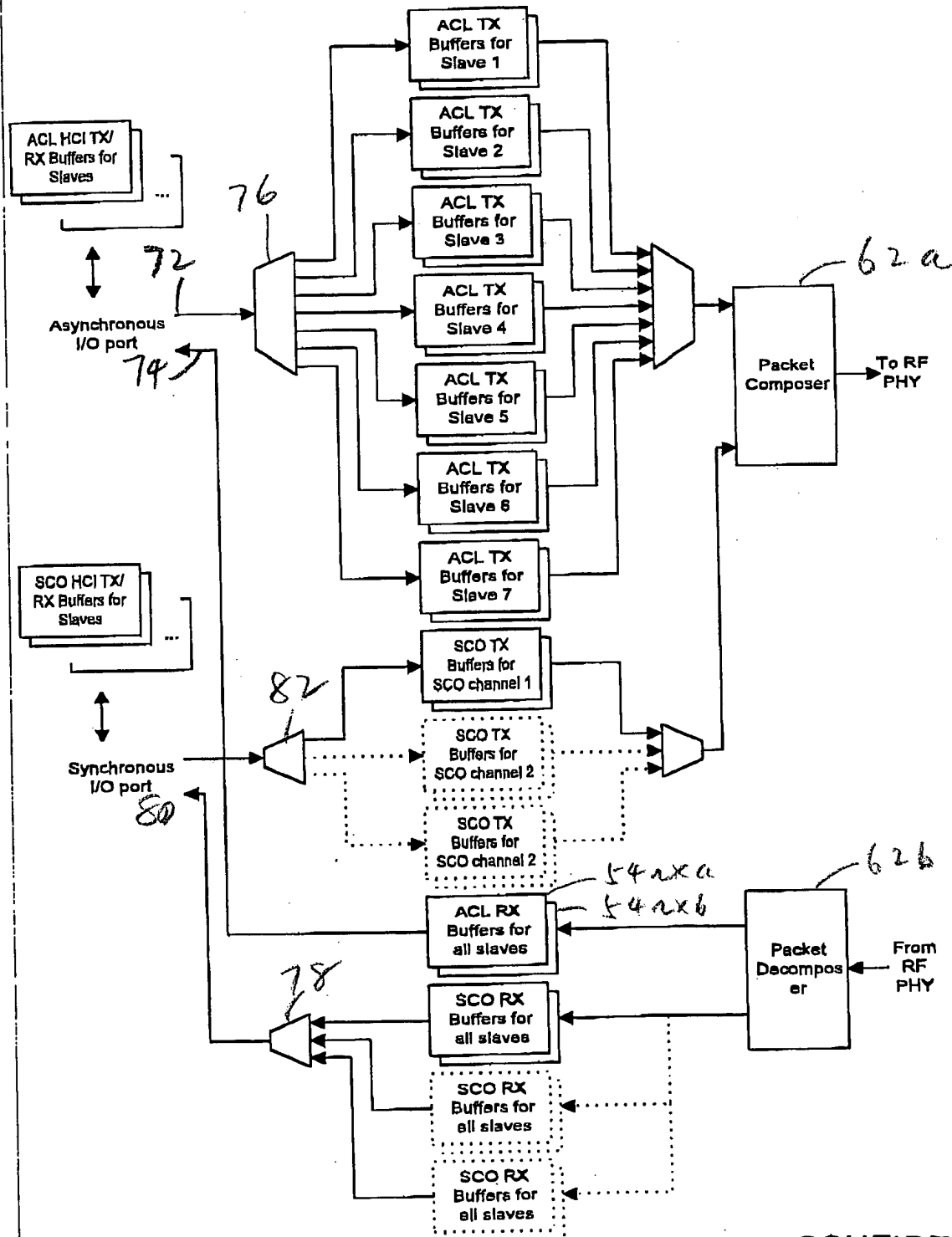
Figure : Dual buffer scheme for ACL packet transmission

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FIG. 5B

PRIOR ART

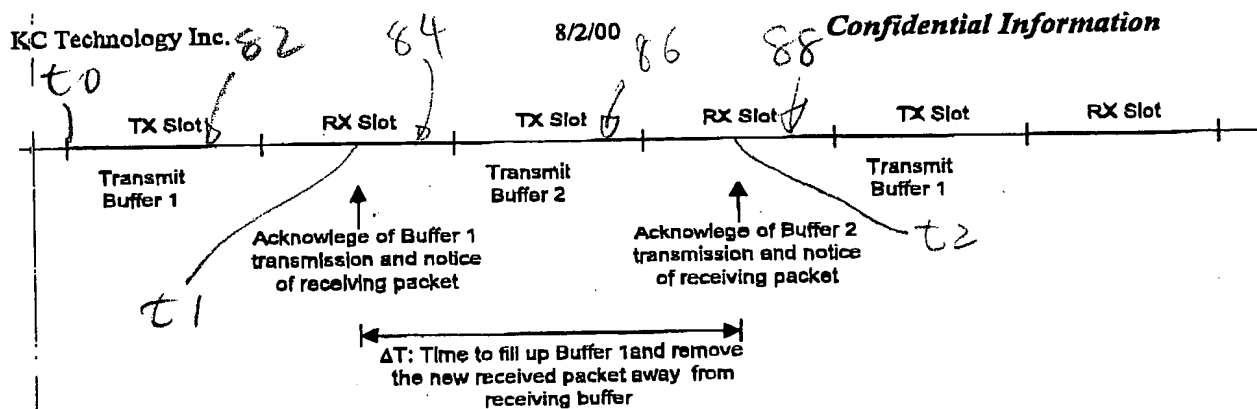


Figure : The worst case timing (ΔT) for the LM to load a TX buffer and unload a RX buffer

FIG. 6
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The diagram shows the Packet Generator block, which contains two sub-components: Packet Segmentation/Assembly and Packet Composer/Decomposer. It is connected to the Bluetooth HCI ACL/SCO Data Buffer and the Link Controller.

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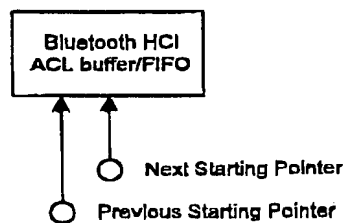
graph LR
    subgraph Packet_Generator [Packet Generator]
        direction TB
        PSA[Packet Segmentation/Assembly]
        PCD[Packet Composer/Decomposer]
    end
    subgraph Bluetooth_HCI [Bluetooth HCI ACL/SCO Data Buffer]
        direction TB
        BCB[Bluetooth HCI ACL/SCO Data Buffer]
    end
    subgraph Link_Controller [Link Controller]
        direction TB
        LC[Link Controller]
    end

    BCB --> PSA
    PSA --> BCB
    LC -.-> PCD
    PCD -.-> LC
  
```

Legend:

- > Data path
- - - - -> Control path

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Figure : Buffer Format for Transmitting ACL Packet

31	24	23	16	15	8	7	0
Flow	pkt type	Data Total Length			BC	PB	na
						...	Data byte 0
na	Previous Starting Pointer				na	Next Starting Pointer	

FIG. 9A

Figure : Buffer Format for Receiving ACL Packet

31	24	23	16	15	8	7	0
Flow	na	Data Total Length			BC	PB	na
						...	Data byte 0
					na		

FIG. 9B

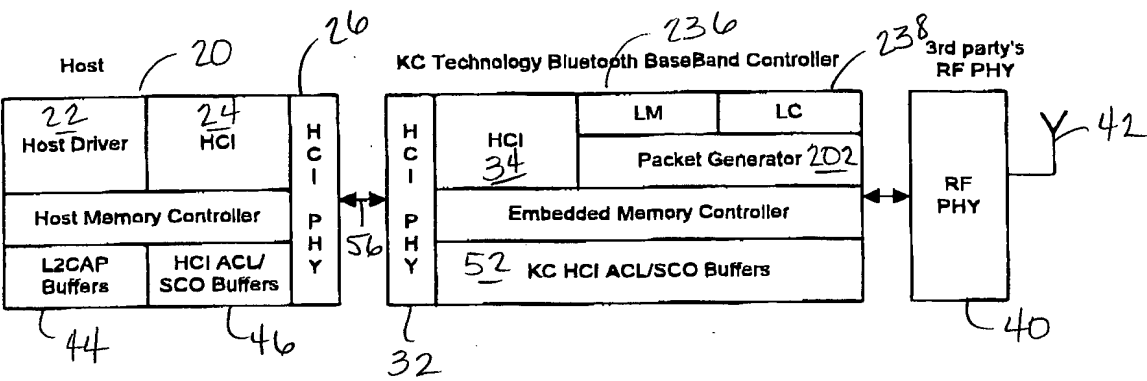


FIG. 10

00706665-44300

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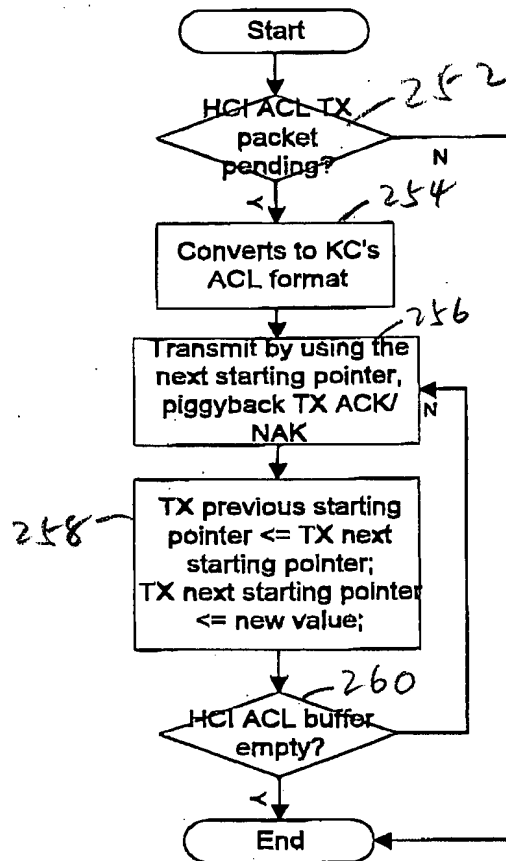
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Figure : ACL transmission control flow of KC Technology's partition

FIG. 11

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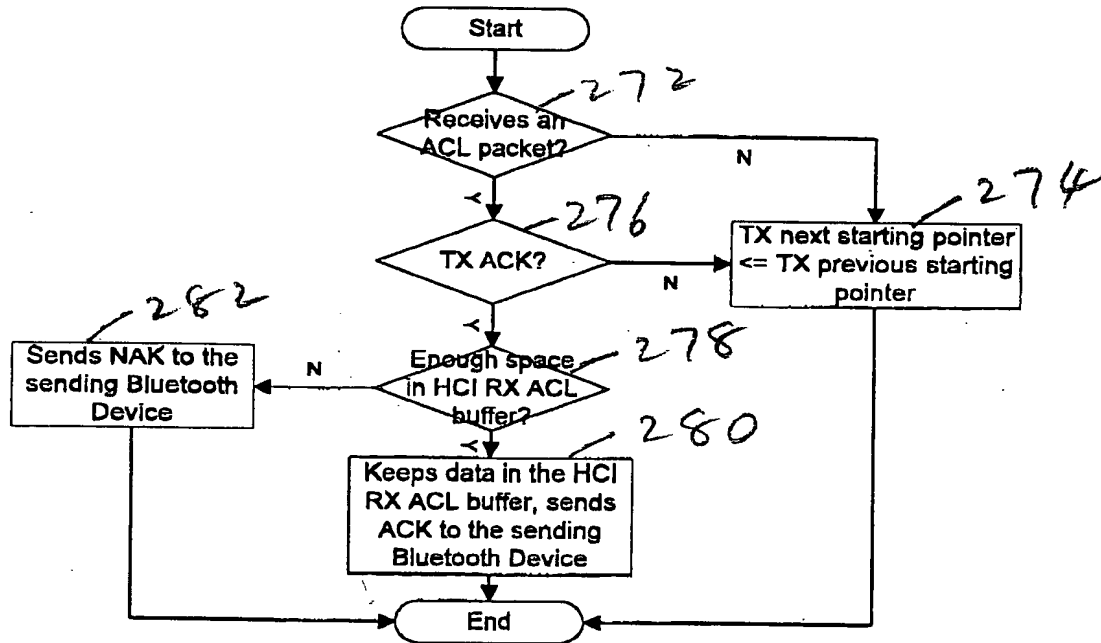
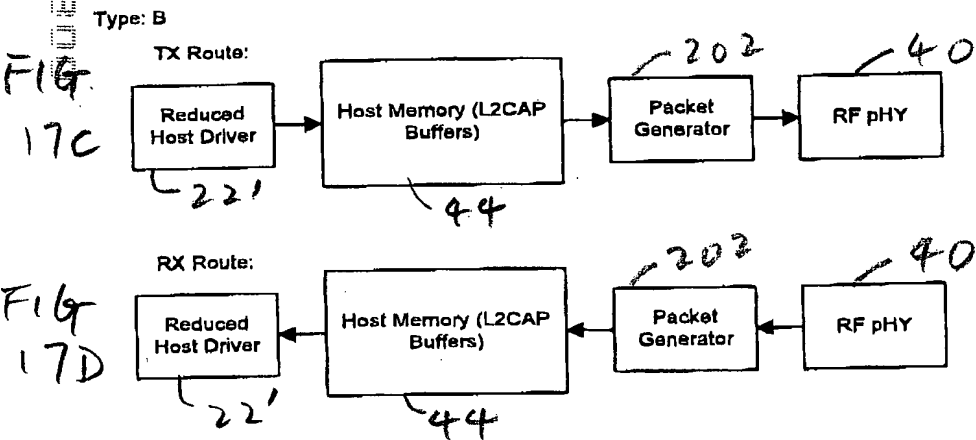
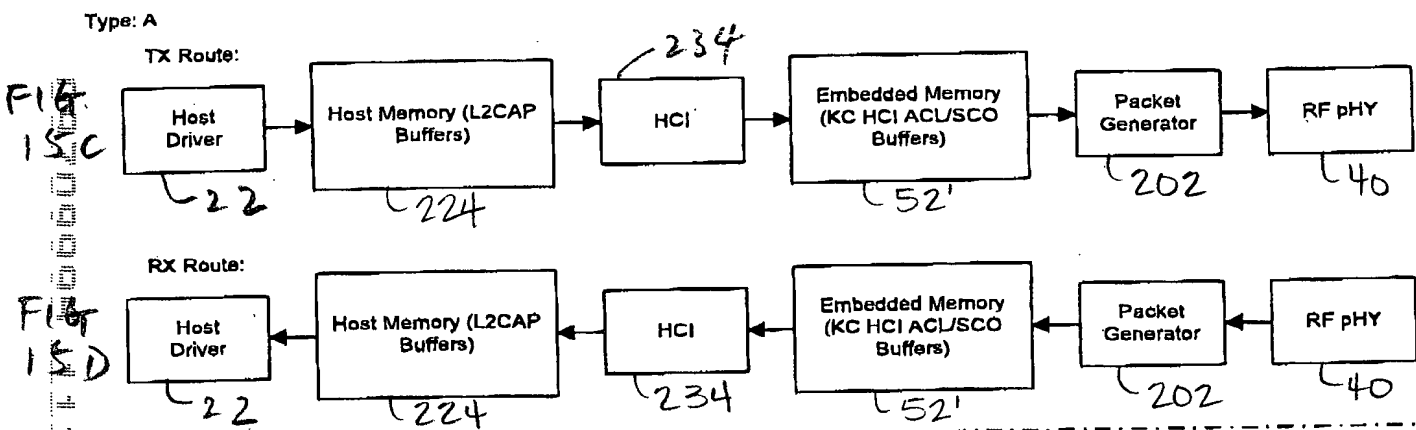
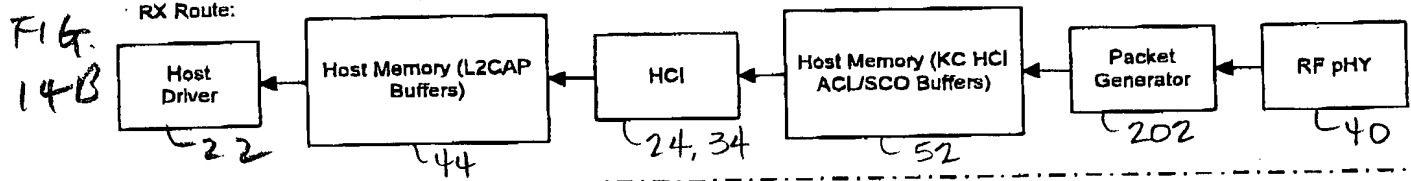
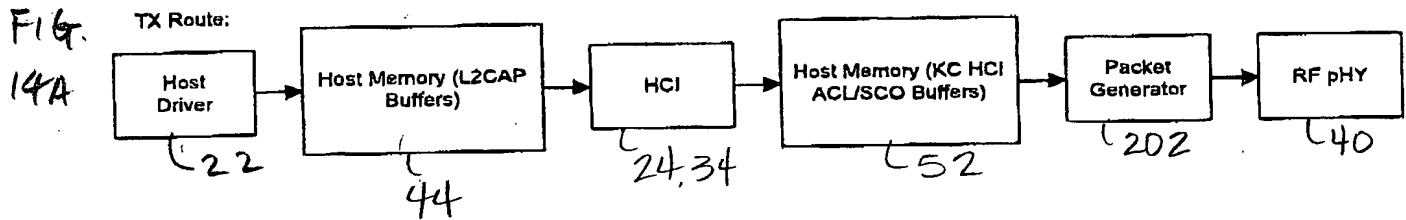


Figure : ACL receiving control flow of KC Technology's partition

Fig. 12



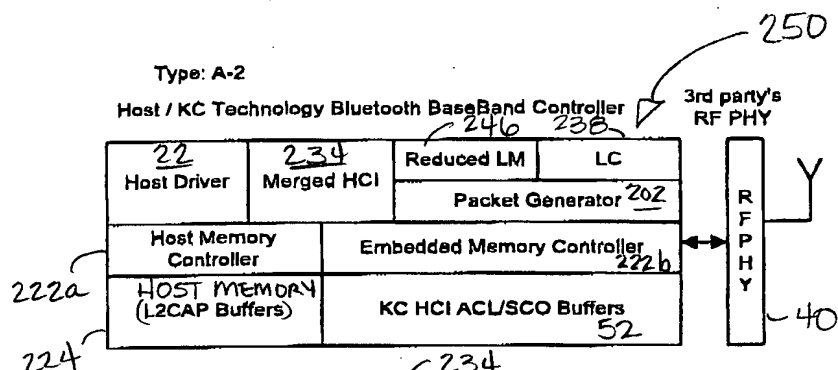


FIG.
15A

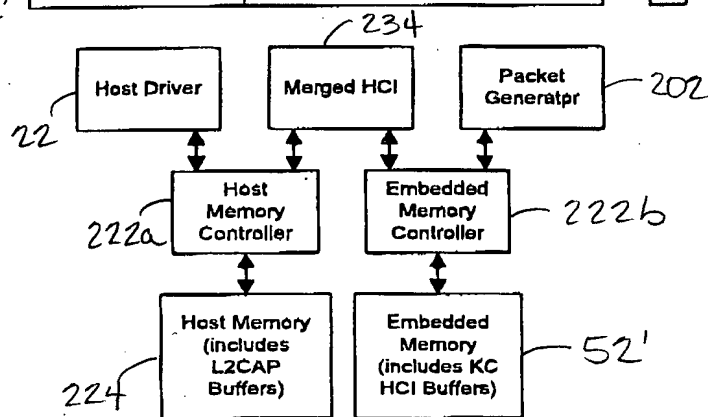
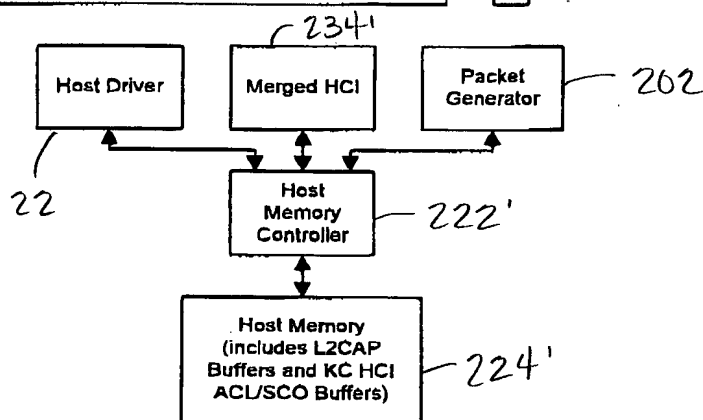
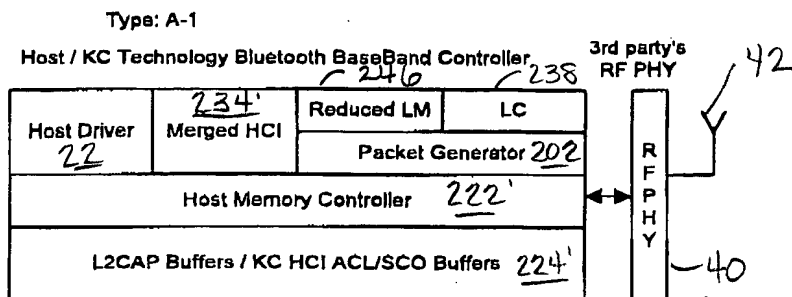


Fig. 15B

[illegible]



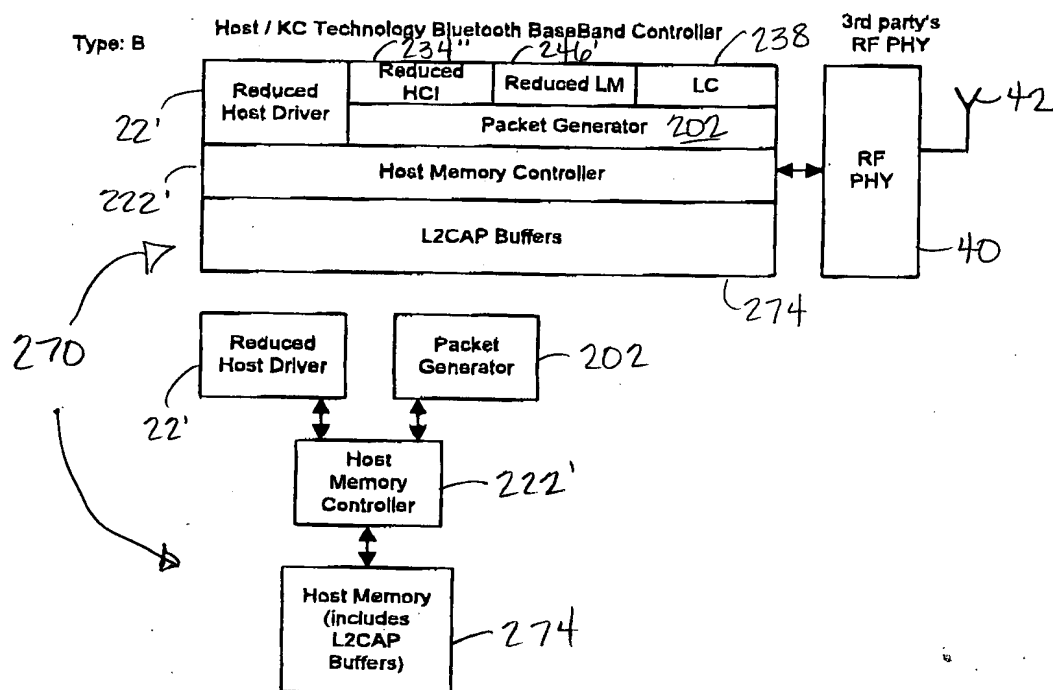


Fig. 17B

[illegible]

Fig
17A